

Developing RESTful Services

Hackathon Requirements

Evaluation Criteria

- Does the web service provide the required service methods? Do the methods operate correctly and return the correct data?
- Are Spring and MyBatis used appropriately and correctly configured? Is auto-wiring used appropriately? Was MyBatis used to develop the interaction with the database? Was the correct data retrieved from the database?
- Have the web service methods been tested using a test Spring context? Does the test class use a Spring context? Are the web service methods adequately tested? Do the service method tests pass?
- Were RESTful standards followed in developing the web service? Do the service methods handle errors properly? Are proper HTTP status codes returned properly?
- Have best practices been followed in all layers? E.g., in Java, Spring, MyBatis, and SQL.

Task

You have recently joined a development team that has been given the task of creating a RESTful service that will deliver information about historical US presidents and biographical detail. Your API will define two web methods.

1. The first web method will return a collection of all president representations from the database.
 - If there is at least one president in the database, return a JSON array of objects and HTTP status 200
 - If there are no Presidents in the database, the response should have an empty body and HTTP status 204
 - If there are any other errors during the lookup operation, the response should have HTTP status 500
2. The second web method will return the biography for a specific president. The president will be identified by their ID.
 - If the requested president is found, return the biography string and HTTP status 200
 - Be sure the biography is returned as valid JSON; for example: {"bio": "On April 30, 1789, ..."}
 - If the ID in the request is less than or equal to zero, the response should have HTTP status 400
 - If there is no president with the given ID, the response should have an empty body and HTTP status 204
 - If any other error occurs during the lookup operation, the response should have HTTP status 500

Requirements

- Your service will be implemented with Spring Boot.
- You will use MyBatis for all database interactions.
- The starter project includes a SQL file to create and populate the appropriate tables in Oracle.
- Verify the functionality of your web service methods by writing JUnit tests.
- Use a Spring test context in the tests as appropriate. Ensure that both current and future tests will rollback any changes to the database.